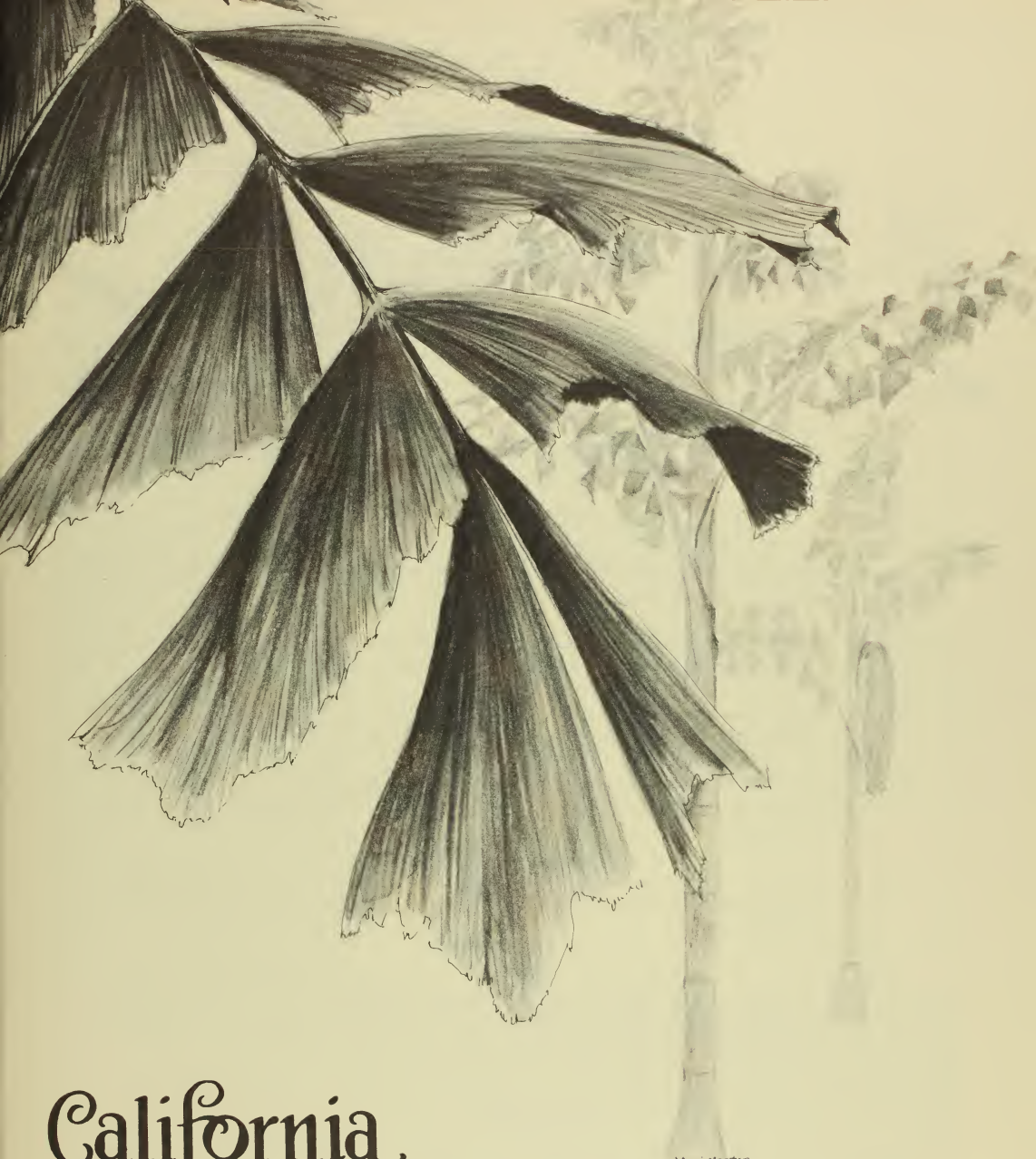

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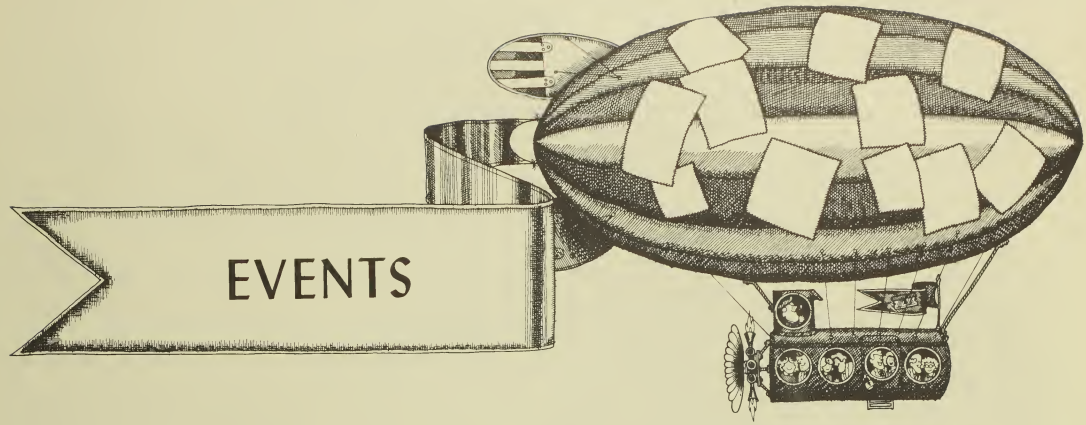

EVENTS

SHOWS

July 9th, 1977: First Annual Show of the SoWest Hemerocallis Society, Majorca Room, Casa del Prado, 11:00 a.m. to 4:30 p.m.; FREE.

July 10, 1977: San Diego County Dahlia Society presents their Dahlia Specimen Show; Majorca Room, Casa del Prado; open 1:00 p.m. to 5:00 p.m.; FREE.

July 17, 1977: Convair Garden Club presents their Dahlia Show in the Majorca Room, Casa del Prado, begins at 1:00 p.m.; FREE.

August 6 & 7, 1977: San Diego County Dahlia Society presents their Annual Show in the Majorca Room, Casa del Prado; Saturday 2:00 p.m. to 5:30 p.m.; Sunday 10:00 a.m. to 5:30 p.m.; FREE.

August 6 & 7, 1977: The Second Annual Ikenobo Chapter of San Diego Plant Sale in the Sculpture Court of the Casa del Prado; Saturday 10:00 a.m. to 5:00 p.m.; Sunday 10:00 a.m. to 4:30 p.m.

August 21, 1977: The San Diego-Imperial Counties Iris Society will hold a demonstration on how to plant Iris. The Societys' work party will dig and replant the various Iris beds at the grounds of Quail Gardens at 12:00 noon. There will be a plant sale in connection with the demonstration. Public invited to the demonstration, FREE.

August 27 & 28, 1977: San Diego Turtle and Tortoise Show in the Majorca Room, Casa del Prado; both days 10:00 a.m. to 5:00 p.m.; FREE.

September 13–15, 1977: A Flower Show School, Course IV, sponsored by Palomar District California Garden Clubs, Inc., coordinated by the Village Garden Club of La Jolla, in Room 101, Casa del Prado, Balboa Park.

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ABOUT THE COVER

Our cover palm is drawn by Marjorie Mastro (Brooks)

ABOUT THE CONTENTS

100 Drouth *BY HELEN CHAMLEE*
102 The Healing Aloes *BY SHARON SIEGAN*
105 Matilija Poppy *BY KATHLEEN CRAWFORD*
106 Delightful Dahlias *BY FRANCES GREGG*
108 The Voluptuous Eggplant *BY ROSALIE GARCIA*
110 A New Palm Arboretum *BY BILL GUNTHER*
112 The Date Palm *BY SKIPPER COPE*
114 Sensible Irrigation *BY GEORGE JAMES*
116 *Aeonium undulatum* *BY REID MORAN*
118 Pesticide Safety Tips
120 *leafin' thru*
122 *now is the time*
124 Succulents of the Lily Family *BY BURR CLOUETTE*
125 Roland Hoyt Recommends

CORRECTION: The arrangement shown in the article Victorian Revival by Vera Terrell last issue, was designed by Kay Yarnell, a member of the Arranger's Guild.

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Drouth

by Helen Chamlee

MOTHER NATURE is impersonal but in a sense "she" has figured out many ways to beat the drouth. Some of them we can, and must, adopt if we are to continue having ornamental gardens in what is essentially, by definition, a desert. (Less than 10 inches of annual rainfall equals desert).

Desert vegetation is adapted to desert conditions. Some of the adaptations we see in our deserts can be incorporated into our own garden practices, even though we are dealing with a different set of plants.

What are the characteristics of desert vegetation? It is sparse, especially during the dry season. Many desert plants are leafless or nearly so in summer. Some die back part way or all the way to the ground. Annuals die completely, persisting only in the form of seeds until the rains come again. Other plants turn gray or brown and stop actively growing.

These are just a few of the ways that impersonal nature copes with conditions unfavorable to growth. Let's see how, by using our good sense as persons, we can adapt our existing gardens to the dry times we know are coming. We don't want a garden that looks sparse, brown or half-dead, but we can turn an ordinary garden into a drouth-resistant one and improve its appearance at the same time.

One way is to toughen it up. Those of you who have gardened in severe climates are acquainted with the phrase, "hardening off." You hardened off your plants in preparation for winter, not for summer; you didn't send them into the harsh season with a lot of soft delicate foliage. The harsh season here is the long dry hot summer. Our plants will be better able to withstand it if they are given a reverse hardening off, if they are prepared for summer with only modest amounts of fertilizer and only modest amounts of water supplementing the rainfall.

That's one adaptation.

Then we can shed some leaves. What's that again? Leafless branches and dead stems in summer? Nature can have that, but it's an effect we don't want at our front door. We are not nature, and we can choose which leaves and stems we want to keep. Put differently, we choose which ones to spend our valuable water on.

Almost any garden that is more than three years old has too many leaves. That's an overly simplified way of saying that:

1. Some plants have outgrown their allotted space;
2. Plants were set too close together in the first place.
3. Your ideas of what's pretty have changed and you no longer find certain plants attractive.
4. Some plants are not doing well and should be removed.
5. After planting a thicket of large-leaved plants to achieve a jungle, you now realize that these plants are more attractive as individual specimens to be enjoyed from all sides.
6. Such jungles are havens for snails.

So walk through your garden, looking at it with a stranger's eye, and decide which leaves (limbs, or whole plants) you could do without. Do this first without pruning saw in hand, but with flags of some kind—strips of cloth big enough to be seen from any angle, or even from a passing car. Walk all around, flagging as you go; then wait a few days before the big chopping is done.

First, mark some plants for removal—those that haven't lived up to expectations, or those that "came with the place" and that you would never have chosen to live with; diseased plants. This goes for trees, shrubs, vines.

Then consider which ones (large shrubs usually) would be more interesting if they were thinned out by removing major branches or trunks in the case of multiple-trunked specimens. Others should be thinned out to reveal interesting bark

or branch structure. Plants such as strawberry tree, bottle brush, and Australian tea, profit by this treatment. A heavy vine, wisteria, for example, might be converted to a tree.

If you have tropicals or subtropicals, is it time to start them over?

If you have a row of shrubs, junipers for example, consider whether removing every other one would improve the appearance of the whole. Three junipers where five stood before would need only three-fifths as much water.

If you have a plant you are continually cutting back because it grows over a walk or window, how about digging it out? If the space looks too vacant, set in a tomato or a petunia for a change. Every time a plant is trimmed or clipped, all the water in the leaves that are cut off is thrown away; then new leaves that replace them use up water, only to be cut off and thrown away in turn. That's why lawns are such water-hogs.

The whole point of all this is that you now have a smaller garden and it needs less water. Don't just continue pouring on all the water you used to use. Cut it by a third or a half and see what happens.

I know it's more fun to have everything damp and cool—my own favorite kind of place is a dripping bank covered with moss and ferns and violets (sigh!), but until our climate changes somewhat that's the stuff only dreams are made of—or vacations in Olympic National Park or New Zealand. □

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The Healing Aloes

by Sharon Siegan

GROW A first aid kit in your kitchen window? Why not? If you choose one of the healing aloes, e.g., *Aloe vera*, it will be packaged handsomely in a soft green, symmetrical arrangement of prickly edged fleshy leaves. In time, there may even be a flower bonus, a yellow inflorescence topping a long spike.

Then, if you are unlucky enough to burn yourself on the stove, or inflict a wound while attending to other culinary duties, treatment is within immediate reach. Nor does it have to be a kitchen accident. Even a bad sunburn or radiation burn will respond. Simply slice off an aloe leaf, pare its outer skin or split it lengthwise, exposing the moist, lime-green flesh; and apply directly to the injured area. The effect is instantaneous—a cool, soothing surge of relief. After the first application, you may want to refrigerate a supply of leaves for future treatment.

Aloe perryi is another attractive healer for the pot garden, although its curative powers are not so directly released. The cut leaves must be pressed, and their juice collected and dried. This residue may then be combined with other ingredients or simply added to some liquid to be drunk as a purgative. Its action is a bit on the explosive side, so it is recommended more as a reminder of its pharmaceutical past than as a current remedy.

Aloe perryi has an illustrious past, dating back to pre-Christian times. Known as the famed "bitter aloes," it was valued as a major ingredient in a Roman cure-all, hiera picra. The original prescription contained aloes from the island of Socotra (located in the Arabian Sea just south of Yemen), combined with the aromatics, cinnamon, spikenard, asarum (wild ginger) and balsummun; mastic for binding, saffron for color, and to alleviate the intolerable bitterness, honey. So strongly scented must this concoction have been, that one wonders if patients were not overcome by whiff alone.

Aloe perryi was known to Greek traders prior to Roman times. Legend has it that Alexander the Great, recalling Socrates' advice that anyone cultivating the Socotran aloe would propser, acted upon it by populating the island with Ionian Greeks. Whether these Greeks cultivated, harvested or simply brokered the aloes, it became a most profitable trade.[1] Exactly when this aloe was discovered, or the Socotran trade in it first developed, is lost in antiquity. Perhaps both were involved in trade with Pharanoic Egypt. (Frankincense and myrrh, essential to the mummification ritual, were popular Socotran exports and the island was accessible to Egyptian navigation.)

Hiera picra, which translates literally into "sacred bitters," continued in vogue across the European continent, spanning the centuries, with additions and subtractions, depending on the availability of one or another of them. Always included was *Aloe perryi*. Finally, in 1746, records show a formula simplified to aloes, wild cinnamon and bark of canella alba. The apothecaries whipped it up in this country and it was prescribed for constipation, dyspepsia (when combined with a carminative), piles and even used to encourage menstruation (after childbirth or other suppression).[2]

In its heyday, the formulas for hiera picra were treasured. Indeed so highly were they valued that their sale is believed to have initiated "patent medicine" with its secret formulas. The popularity of the preparation continued until this century when the advent of a variety of milder laxatives eclipsed it.

Along with *Aloe perryi*, the island of Socotra has also sunk into oblivion. Although Socotra, like Galapagos, because of the fortuitous circum-

1. Douglas Botting, *Island of the Dragon's Blood* (1958).
2. *Potter's New Cyclopedia of Botanical Drugs and Preparations.*

stances of its formation, became a preserve for all manner of strange and "prehistoric" life forms, it exists today as an impoverished land. Its once brisk trade in incense from myrrh and frankincense, dragon's blood (the sap of the cinnabar tree) and aloes juice, has dwindled to a trickle. The little aloe residue still being shipped is destined only to discourage children from nailbiting (by direct application to fingernails).

This is the seemingly simple tale of *Aloe perryi*. The history of *Aloe vera* unfolds with much greater complexity, even more conjecture and perhaps a surprising linkage to *Aloe perryi*.

Aloe vera begins with a confused nomenclature. Both Linnaeus and Miller, the two botanists who scientifically classified the plant kingdom, identified an *Aloe vera*, but they were different species.[3] Linnaeus' *Aloe vera* (actually listed as *Aloe perfoliata* [var.] *vera*) was named *Aloe barbadensis* by Miller, and Miller's candidate escaped inclusion in the Linnaeus registry. Hybrids of the barbadensis aloe are known to be in the San Diego area and are being sold as *Aloe vera*.

Historically, the first identification of *Aloe vera* (barbadensis) was given to the aloe described by Dioscorides, a first century A.D. Greek herb enthusiast and "world traveler." He wrote about it in his Materia Medica, and his text was reproduced in the first illustrated Herbal[4], accompanied by a drawing of the plant. This illustration reappeared in subsequent Herbals, including John Girard's, written in 1597. (Girard identified it as *Aloe vulgaris*, the common or sea houseleeke.) The drawing, which could equally represent either *Aloe vera*, is also a look-alike for *Aloe perryi*. A close examination of Dioscorides' description suggests that he may indeed be commenting on more than one aloe. The following excerpts would certainly seem to apply to *Aloe perryi* as it was known anciently.

> "All of it is of a strong scent and very bitter to ye taster. . . . . [the extracted juice] being swallowed also with rosin or taken either with water or sod honey, it looseth ye belly, but ye quantity of three drams doth fully purge."

Dioscorides credits it with cleansing the stomach, "good for tonsils, gums, and all griefs in ye mouth." In addition, the juice, "by being sprinkled on drie it conglutinates wounds, brings to a cicatrix boils and represseth them." It also stops hemmorhoid bleeding, headache, cures black and blues and prevents baldness. The complete repertoire of use is much more exhaustive, but this sampling suggests that Dioscorides' above-described aloe could certainly have been the prototype of the Bitter Aloes so essential to hiera picra—i.e., *Aloe perryi*. (Indeed the "slightly mawkish" odor and taste which characterize *Aloe perryi* juice, according to Reynolds, would seem to strengthen this conclusion.)

Dioscorides notes that the aloe, when it grows in the islands, "as in Andros [is] not good for extracting juice, but fitting for ye conglutinating of wounds, being laid on when it is beaten small." This description seems more appropriate to *Aloe vera*, but if so, it raises the distinct possibility of both varieties being used in the first century of the Christian era.

3. So says authority G. W. Reynolds, in *Aloes of Tropical Africa and Madagascar.*

4. *Codex Anicia Julianae,* appearing in Constantinople, 512 A.D.

According to the book, The Flora of Egypt, Linnaeus' *Aloe vera* is identified as the Egyptian aloe called saber, sabr or sabbara, all of which translates as "bitter medicine" and means endurance in that language. This aloe seems to have been cultivated in Egypt since ancient times and was used especially as a cemetery plant and boundary marker. Even today, it is hung over the door (particularly of a new house) to insure long life.

Curiously this same tradition of adorning doors with aloe plants was recorded in the Dictionary of Assyrian Botany, and the name, written in Akkadian texts is 'si ba ru,' a variant of the Syrian sabbra and Arabic sabr. Finding the name written in Akkadian cuneiform makes a dating in the second millenium B.C. not unreasonable.

Again, the ancient names of this aloe strongly indicate a taste familiarity. However, *Aloe vera* also tastes bitter, and may perhaps have been used as a purgative during those pre-Christian times. Or alternatively, the aloe in question might have been *Aloe perryi* or one or another of its variants or hybrids.

New Testament aloes appear to share in the symbolism of death and eternal life which characterize their use in the aforementioned ancient Near East. Thus in John XIX, 39, we read:

> "He was joined by Nicodemus who brought with him a mixture of myrrh and aloes, more than a hundredweight. They took the body of Jesus and wrapped it with the spices, in strips of linen cloth according to Hebrew burrial-customs."

This embalming process may owe much to the enslavement period of the Hebrews in Egypt, where they became familiar with mummification. If the aloes were not included for their preservative value, they may have been added to heal the wounds and restore the flesh of the deceased in preparation of final resurrection at the time of the Messiah. Which of the aloes was used could not be determined except by having the physical specimen, but *Aloe vera* qualifies.

Curiously, the references to aloes in the Old Testament seem to refer to a perfume from a gum tree, *Aquilaria Agallocha*. The wood of the agalloch has long been known as a kind of incense, and reflected in the current Arabian custom of sprinkling guests with rose water while burning fragrant aloes wood.

This then, is the confused and confusing history of *Aloe vera* and *Aloe perryi*. I have not attempted to straighten out the various *Aloe veras*. But if the one your purchase should be lightly spotted and the leaves, while young, appear to be growing in two opposing ranks rather than a rosette, chances are you do not have the "true" *Aloe barbadensis*, but probably, a hybrid of it. Regardless, it will perform satisfactorily as a skin healer for burns and minor afflictions.

Nor must you limit yourself to one of the *Aloe veras* for instant application. *Aloe ferox* is rich in testimonials as to its efficacy in treating a variety of skin conditions from rashes to sunburns. Reynolds reports that a Johannesburg dermatologist substituted *Aloe arborescens* for *Aloe vera* in treating his radiation burned patients with equally satisfactory results. *Aloe succotrina* has also been acclaimed as a healing aloe. (*Aloe succotrina* derives its name not from the island of Socotra, but because of its yellowish exudate; its habitat is South Africa.)

Besides the above-mentioned aloes, there may well be others which either have or may be used in skin treatment, and I shall be glad to be informed of them.

But if you are content to grow one of the easily obtained *Aloe veras* (or hybrids thereof), your healing crop may be raised with minimal care. Their needs are simple; they originated on rocky slopes with low rainfall and enjoy similar conditions here. Good drainage is essential, and an occasional feeding with a 6—10—10 fertilizer will keep them healthy and happy. If they are grown outdoors, do keep them from sunburn; they will remain green in afternoon shade. If they are potted, a fairly rich, porous soil will please them, so long as they drainage is good and they do not remain wet.

Finally, when you snip off a bit of first aid, just remember that aloes are members of the lily family, and yours is cousin to the Easter and tiger lily as well as yucca and asparagus. □

Matilija Poppy

by Kathleen Crawford

WHEN EXPLORING California's southern mountains, an exciting discovery is the Matilija poppy. One may come upon a stand of these big, bushy plants with their enormous frilled white flowers by the hundred—an extra-ordinary sight; one of the most spectacular of all poppies. A narrow endemic, this rare plant has a very limited range. It is constituent of the chaparral on mountains between two and four thousand feet elevation, a few miles inland from the coast, and eastward to Riverside County. The north-south range is from Santa Barbara County to northern Baja California. The popular name is for a typical location, Matilija Canyon in Ventura County. The latin name, *Romneya coulteri*, remembers the discoverer Thomas Coulter and his friend, T. Romney Robinson. It is our only genus, and is found with its variety trichocalyx.

Like most California wildflowers, Matilija poppies are tempermental but durable. Getting one started takes patience and endurance. They are propagated by root runners, but you must dig deeply to get to the horizontal pink roots, and they don't always like being moved. (Try to get a runner from a friend's garden; digging for roots in the wild would probably be a harrowing fight with rocks and might end in failure if the runner couldn't be rushed to its new location). Once started, they are among the most permanent, drought resistant and beautiful plants in any garden. Then, each late spring—May and June—the glorious great white flowers appear for a beautiful garden experience. □

Delightful Dahlias

by Frances Gregg

"YOU'VE COME a long way, baby" is a slogan appropriate to the dahlia, a Johnny-come-lately among important garden flowers, which reached Europe as a single wilding about 1789. In appreciation of the easier life under cultivation they began to offer variety in size, color, and form almost at once and now there are enough varieties to suit any gardener.

A dozen or more species of the wild dahlia still exist in the higher elevations of Mexico, most of them now modified by hybridization or cultivation. The original European specimen, named by Linnaeus for his pupil Andreas Dahl, began to show signs of doubling its very first year. A real rash of doubles broke out beginning in 1814 and by 1826 the Royal Horticultural Society of England listed sixty varieties. Most early doubles were those we know as ball dahlias, round and fully packed, tending to purplish-reds in color. They fit the Victorian decor but lost favor as it became unpopular.

The first cactus type, appearing in Europe in 1864, was called Juarezii in honor of Mexico's hero. It stimulated new attention. Then, for some years, interest focused on increasing size, until blooms became so huge that they had few uses. One could marvel at their immensity, but the plant was coarse and out of scale with most other flowers. Today we still have some very large specimens but they are much more refined than the early varieties.

For use in floral design, the smaller cactus types, the waterlily types in the formal decorative class, the collarettes, and the diminutive pompons are most adaptable. Collarettes emerged in Lyons, France about 1900. The dwarf bedding dahlia, available in named varieties, grow easily from seed and are especially useful for bordering walks, for edging beds of taller dahlias or perennial borders, or for furnishing a colorful show (with little outlay in either labor or money) in a newly planted area. The tuberous roots of the most attractive may be divided in later years.

Propagation is by four methods. Division of clumps is the common way of increasing stock identical to the parent. The "eye" or bud, which is essential if the new plant is to grow at all, is found at the crown, where the tuberous root is attached to the main stem. Some experienced growers store the entire root clump as a unit and divide in spring. The eyes are not prominent at that time, so others divide them immediately after digging in the fall when the eyes are easily identified. If one waits until spring to divide, covering the clump with damp peat for a few days will often start growth so that the buds are visible. A linoleum knife is a good tool to use to cut apart the clumps. It is short and stout-bladed with a sharp hooked end. Any breaks in the skin of the tuber, if dusted at once with sulphur, are unlikely to cause rot.

New varieties may be increased faster if cuttings are taken and rooted as spring growth starts. They bloom and form tubers the first year. Grafting is possible, but it is a complicated process of uniting a cutting to a tuber, and is used mostly to preserve rare varieties. With the exception of sports, new varieties come from seed, which germinates strongly and readily.

Any friable soil with good drainage will grow dahlias. If a hole 8 inches deep is dug, the soil below stirred and fertilized and a stake set in the center, you have made a good base for your plant. Staking is a good precaution as the stems are brittle and they break easily, especially in a windy location. Two tubers, or even three of the small varieties, may be placed with the "eyes" near the stake. (For show dahlias place only one eye to each stake.) Cover the tubers with a few inches of soil at first, filling in the hole as the shoots lengthen. In an area where there is little wind, this same pattern of planting can be used without the stake—the plants brace each other. Some pinching of tips will increase bushiness, but pinch only the tips, dahlia stalks are hallow and heal with difficulty.

Dahlias have a lot of growing to do in a short season, so they must have adequate water and nutrients. Thorough soaking once a week gives enough water if the planting is deep. Except in early stages, nitrogen in fertilizers should not exceed 3%, phosphorous and potash can be higher, but one must not overfeed. Too much sugar builds up and may cause the tubers to spoil in storage. Frequent shallow cultivation until buds begin to form is helpful. Plants then should have a final feeding (bone meal with a little nitrate of soda is good) and be mulched. Removal of side buds on each terminal branch will produce better flowers and better stem length.

Many insects are fond of dahlias. Systemic insecticides are the easiest answer unless edible plants are within range. The newest formulas are biodegradeable not leaving the objectionable residue of the first systemics. Dusting sulphur will prevent mildew. Mosaic or "stunt" is transmitted through the roots; affected plants should be destroyed.

Dahlias produce better if dug and divided annually; there simply is too much competition among the many tubers if the clump remains a unit. When to dig? In California's varied situations obviously no directions can apply to all. Where there is frost, tops should be cut to twelve inches or so as soon as frost has blackened them, but dig a week or two later; the tubers will ripen and harden during that time. In frost-free areas tops can be cut to the same length, artificially halting growth, at any date one is sure tubers are mature. Let the soil dry on the clumps after digging; this aids ripening, and it will fall off when dry. Store either whole or divided clumps upside down, being sure to label each as to varietal name. Indelible or other marking pencil on the tuber itself is legible and certain. Packing in dry peat and spraying with an antidesiccant prevents much dehydration.

The exhibitor at shows or fairs should select blooms of symmetrical form, fully developed but still with crisp fresh back petals, choosing for depth as well as width of bloom. Color rates high in dahlia scores; be sure there is no fading, graying, streaking, or burning of color and that green bracts do not appear near the centers. Stems should be round, not ridged, of proportionate length to size of bloom, and sturdy enough to display the bloom well, with at least two sets of leaves. Bloom position is most attractive with an angle of 45 degrees between flower and stem, tilting the bloom slightly upward. Sidefacing is not often penalized but any degree of downfacing is a serious fault.

Fragrance is rare in dahlias, usually occurring, when it does, in the peony-flowered type. True blue and pure bright orange are about the only colors that have not been achieved yet in dahlias. With the flowers' tremendous versatility, these colors will no doubt occur. □

.....ICED WORMS.....

At a previous Annual Meeting of the San Diego Floral Association in June, 1976, the usual ceremony of installation of officers and directors was conducted by Barbara Jones. As a gift to the incoming officers and board she gave a small transparent, covered plastic container of earth worms in moist soil, signifying the below the surface work of this governing group. I took my little container of worms home and laid it on a chair while my husband helped me put up dishes and bits of left-over food from the pot luck dinner that always precedes the Annual Meeting.

Later I looked around for my worms, and not finding them, asked my husband if he had seen my worms.

"Worms! What worms?" he asked rather incredulously.

"That little plastic box I laid on the chair," I replied.

"Oh, that! I thought it was chocolate pudding and put it in the refrigerator," he said. □

ROSALIE GARCIA

The Voluptuous Eggplant

by Rosalie Garcia

THIS HANDSOME purple vegetable, ***Solanum melangena***, is common enough in our markets and gardens, but has never really caught on as a staple in the American diet. It is still cultivated mostly by the gourmet cook, or a seeker after something different to eat—unless one has ancestral roots in the Mediterranean or Orient. We seldom see any but the large globular or slim purple eggplants, but there are red, yellow, striped, and white ones. The last are the size, shape and color of the white hen's egg and seem to have been the first to come through the trade routes to Europe and on to England where it was named eggplant. They have been found in tropical Asia and India since recorded time, and still grow wild in India. Where food has always been scarce, anything edible has been tried and appreciated, so imagination and necessity have inspired cultivation and use. We most often serve it sliced and fried in batter, or in a casserole with meat, cheese, or eggs with tomatoes and onions. When I was a child Sunday dinner at Miss Mattie's always included a souffle-like casserole made with cooked eggplant, eggs, cheese, onions, and breadcrumbs, which she served with baked chicken.

One of the eggplant's relatives is the potato, but eggplant is more like another member, in that it is over 90% water and 5% carbohydrates, with traces of protein, minerals, and vitamins. Its bland flavor, some say like oysters, and soft mushy consistency make it adaptable to contrasting and strong combinations. Raw, it is slightly bitter or just plain blah. Some cooks always let the sliced or cubed vegetable rest a half hour sprinkled with salt, before rinsing for steaming, frying, or baking. With the new and improved hybrids that is no longer necessary, except to remove excess moisture. The skin is edible and tender also on the new varieties and is better left on to hold the flesh firmly.

The eggplant is seldom served in even first class American restaurants unless they specialize in Greek, Italian, or Mideastern foods where one can find many imaginative uses. One Italian place I know puts a slice of fried eggplant on a bun with slices of ham, tomatoe, and onion for a fine lunch with a glass of red wine. Turkish and Lebanese restaurants use it with lamb and other vegetables, plenty of oregano and garlic for stimulating one-dish meals. The Orientals stir-fry cubes of eggplant with other vegetables and strips of meat for delectable dishes. The vegetarians stuff the large ones with a combination of the cooked pulp, whole grains, eggs, tomatoes, and onions and bake them. Steamed cubes of eggplant, made in a minute in a microwave oven, combine well with omelets and scrambled eggs. In a Greek restaurant in New York I once was delighted with a big salad made of chunks of cooked and chilled eggplant, marinated in some delectable dressing, along with other salad vegetables and dried black olives. The French cooks of course, got into the act with their Ratatouille Provencial which has stood the test of time. They cube a big eggplant, saute it slowly in olive oil along with fresh tomatoes, pimientos, onions, garlic, chopped parsley, and capers until it is tender but not mushy. Serve it either hot or cold. I like it best cold. Sometimes I add cubes of zuchinni and green peppers.

Out-door cooks may like a Mideastern method of putting the whole eggplant over the coals, turning it until the skin is black and charred and the flesh firmly soft. Skin it, tear the flesh in shreds, and serve with a favorite sauce of meat and vegetables. The charcoal adds flavor. I have not given definite recipes because this is not a how-to-cook article, but library shelves are full of cookbooks with proper measurements and methods for cooking. The Mideastern, Oriental, and Italian cookbooks have the most stimulating methods, along with the Greek.

Although the eggplant is a tropical plant, it has adapted to the temperate zone, if grown in the summer, and does best where it is hot and humid. Florida, New Jersey, and Louisiana have proper summer climates for commercial crops.

For the home garden here in California, we can grow them by following the planting and cultivating pattern we use for their botanical cousin, the tomato. They need plenty of sun, good rich soil with plenty of humus, and following a planting time from February to June, depending on the warmth and shelter of the garden. Since they are decorative plants with gray-green ovate leaves and pendant blue flowers, they lend themselves to pot culture. Pots in sunny spots add much to the landscape. Nurseries have plants available from November to June. Three-inch plants do best for transplanting, for it takes them time to adapt, and the earlier they are started the better. Since we get seeds and plants now of only the big, roundish purples, and the long slim purples, and they are all hybrids we do not have much to choose from. There is more flavor in the long or Japanese type, so we do have a bonus.

Since they are of the nightshade family, which contains poisonous members, they, like tomatoes, were for a long time, sort of taboo in this country. Eggplants have been considered decorative, but not edible, which may be one reason they were slow to catch on. I used to take a friend a basket of vegetables, including some of my choice, glossy, firm eggplants, in prime condition for eating, and months later find them in arrangements (they do keep well). When I asked why she did not eat them, she responded that they are too pretty to eat, and besides they don't have much taste to them. Maybe that is the answer. □

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A New Palm Arboretum

by Bill Gunther

FOR THOUSANDS and thousands of years there have been natural palm canyons in what we now call San Diego County, in California. Today, these palm canyons still thrive in their beautiful wild mode, populated with the indigenous palm which we call ***Washingtonia filifera***. But ***Washingtonia filifera*** doesn't like the moist air which prevails close to the Pacific Ocean, for which reason all the native palm canyons of Southern California are inland, beside springs and creeks along the eastern slopes of the Coastal Range, bordering on the desert. As a result, in the past, San Diegans have had to travel maybe 100 miles to see a really spectacular palm canyon.

This cluster of seven beautiful *Washingtonia robusta* palms are but a few of the dozens which remain in place from the 1915 Panama-Pacific Exposition. They will constitute the "upper tier" of San Diego's new "Palm Arboretum".

But no more! Very soon, San Diego will have its own palm canyon, right in town. San Diego's palm canyon will be even more spectacular than the natural ones way out there in the hot desert. And what is more, it will not have just one species of palm; rather it will boast a great variety of palm species and palm genera, collected from all over the world.

The site of the new palm arboretum is near the geographic center of Balboa Park, immediately west of the Organ Pavilion, in the canyon. The "first phase" of the project is just now being completed; this phase includes preliminary plantings, paved walkways, an irrigation and drainage system, benches, an overhead walkway, and a massive rustic staircase.

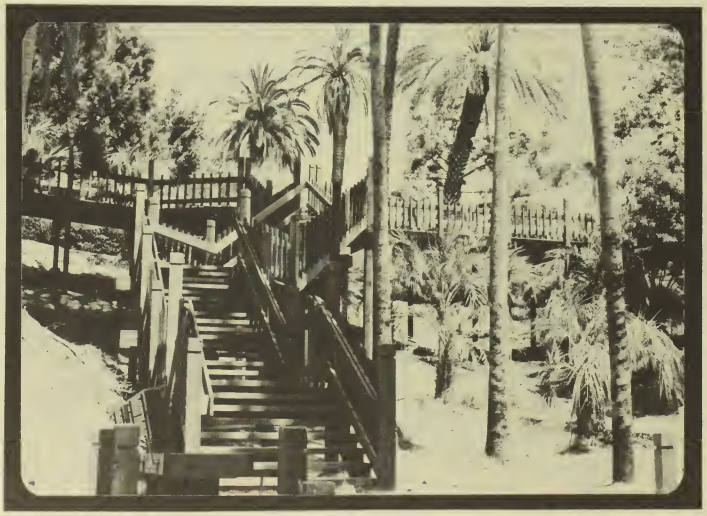
But first, let's go back to the beginning of it all. Bob Nelson, general park supervisor for the city of San Diego, and himself a palm enthusiast, indicates that it all began way back in 1913. That is when San Diego was preparing Balboa Park as a site for the 1915-1916 Panama-Pacific Exposition, which celebrated the opening of the Panama Canal. At that time a large number of ***Washingtonia robusta*** palms were planted in the canyon. Many of them, now more than 65 years old, still are alive and growing, and they are taller than any of the ***Washingtonia filiferas*** which grow in any of the palm canyons of the desert area. The tops of these plams now reach well above the level of the mesas which border the canyon; they "soar"; they really are the foundation and the basis for the present palm arboretum project.

A couple decades after those original palms were planted, Balboa Park was the setting for an even greater event—The California Pacific International Exposition of 1935-1936. That fair celebrated an attraction even more sensational than the opening of the Panama Canal; that attraction was Sally Rand, the fan dancer, in person! Sally, with her fans and bubbles, danced on a ramp which was centered in a shallow "lake" located

slightly north of the Organ Pavilion. To beautify the surroundings for her act, many palms, including *Butia capitata, Phoenix canariensis,* and *Trachycarpus fortunei* were planted in the area. Some of those palms, now over 45 years old, remain immediately to the northeast of the 1913 plantings.

In 1970 the Parks Department of the City of San Diego decided, as recommended in the Bartholomew Master Plan for Balboa Park, to develop a "palm arboretum," using the old exposition palms as a base. Since then, well over $100,000 has been expended in basic physical development of the site, including the walkways, the staircase, the bridgework, and the benches mentioned previously. Separately and additionally, the Park Department since then has been deliberately and systematically acquiring—by purchases from exotic nurseries and by donations from members of the Palm Society—seeds and seedlings of many, many palm species. Utilizing hothouse procedures it has grown these seeds and seedlings into nursery stock of size such that they are ready to be planted out this summer (1977) in the now-prepared site. An inventory of the potted plants on hand indicates that 25 different palm genera are included, with the number of species and of individual specimens proportionately greater. Container sizes range all the way from gallons to huge tubs. Also waiting to be planted out as companion plants to the palms are, most notably, semi-tropical members of the genera *Acalypha* and *Brassia*.

When next you visit Balboa Park, go to the site of the new palm arboretum, watch while one of the new little palms is being planted, and make a careful mental note of exactly where that little palm is located. Thereafter, over the many years to come, each time when you visit the palm arboretum you can admire "your" special palm, notice how much it has grown, and think back with nostalgia to the year 1977 when you saw that tree—while it was a baby—being planted. □



This rustic staircase, and the elevated walkway which traverses the background, are new components of the "palm arboretum" which is under current development in San Diego's Balboa Park. Large palms, the heritage from two different "World's Fairs," are scattered through the entire area. During the coming summer, many hundreds of young palms of many species will be added to this landscape. And in another decade or two, the staircase and the walkway will be out of sight, submerged in a jungle of palms.

The Date Palm

by Skipper Cope

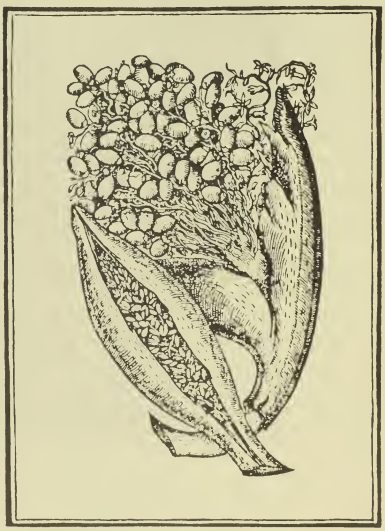
THE DATE palm (*Phoenix dactylifera*) has been used in many symbolic forms since long before Christ when it was the symbolic Tree of Life in the Near East. The Egyptians called it the Tree of the Year, because it produced a new branch every month. It became the sacred emblem of Judea after the Exodus. In 53 B.C., the Romans used the palm leaf as an emblem of their triumph over Judea and as symbolic of their plunder and destruction of Jerusalem. In 29 A.D. the Christians adopted the palm leaf as symbolic of Christ's triumphant entry into Jerusalem. In defiance of the Roman Rulers and the Hebrew hierarchy they strewed his path with palm leaves. They are still used as religious symbols by the Christians on Palm Sunday and by the Jews at Passover. In the time of the Catacombs the palm leaf became the emblem of the Matyrs, symbolizing the victory of their faith over their bodies.

In the Middle Ages the palm tree was used to symbolize triumph over Adversity because people believed it always grew erect, no matter how it was bent or weighted down.

In 16th Century Europe, a unicorn's horn was considered an infallible cure for all diseases. So, to drink date-palm wine from a unicorn's horn was positive insurance against becoming ill; a potent healing agent for wounds and burns; and a remedy against poison.

In Persia, Arabia and North Africa the date palm has long been one of their principle sources of wealth. Long ago Bedouin caravans and other wanderers crossing the Sahara, must have carelessly dropped the pits of the dried dates they carried for food around the wells where they stopped to rest. In time, the treeless oases became

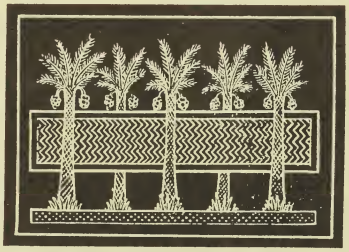
Fruit-bearing Date Palm, from Mattioli's 'Commentaires,' Lyons, 1579.



Unripe and Ripening Dates, from Mattioli's 'Commentaires,' Lyons, 1579.

an orchard of life-sustaining date palms making each oasis a beautiful garden.

For the Nomadic Tribes of today the date palm is truly the Tree of Life for, dried or fresh, its fruit is the main food supply for man and beast. □



Date Palm and Pond, Symbols of Abundance and Peace, from an Ancient Egyptian Mural.

The Unicorn and the Date Palm, from Bock's Kreuterbuch, Strassburg, 1595.

Palm Leaf and Olive Branch, Symbol of Triumph and Peace, from an Embossing in the early Christian Catacombs.

Sensible Irrigation

by George James

TO GROW well, plants need enough water to meet their needs, but if too much water is supplied, enough so the soil around the plants remains continually moist, the plants can suffer and may die. Many gardeners overwater their plants, without realizing that by keeping the soil continually moist the passage of air into the soil, a necessity for healthy roots, is reduced or prevented and as a result the roots may be weakened or may die. In many cases the irrigation of the garden is not well understood. Watering is done on a periodic schedule which does not take into account the amount of water used, the kind of soil involved, the weather, or the size of the plants involved. All of these factors influence the need for water. Some gardeners simply water as soon as the surface of the soil appears dry.

Plants get their water and nutrients through roots which are established in soil below the surface, and it is the moisture content of this soil that determines when plants should be irrigated. Garden experts tell us that as a rule, small plants, such as lawns, small ground cover plants, flowering and vegetable plants, and small shrubs root about a foot in depth, while medium size shrubs will root to two feet in dept, and large shrubs and trees will have roots that extend to three feet in depth. It is assumed in all cases the roots can penetrate to these depths without encountering an impervious layer. It is recommended that enough water be applied when irrigating to wet the soil to the depth of the roots of the plants being watered. When plants with different depths of rooting are being grown where they must be watered together, it is recommended that one irrigation be applied that will wet the soil to the depth of the deepest roots then one or two irrigations that wet the depth of the shallowest roots, continuing this rotation so the needs of all plants are met. The plants with potentially deep roots are not forced to root at the surface.

The moisture content of the lower soil, the soil in which the roots of the plants to be irrigated are established determines the need for irrigation. When this fact is accepted and a way of learning the moisture situation in this soil is used, then irrigation can be supplied as needed, with less danger of damage to the roots and without using more water than is necessary to develop and maintain healthy growth. There are several ways to determine a soil's moisture condition. There are meters, permanently installed or portable, which show the degree of moisture in the soil. These usually have a strong appeal to the gadget minded gardener. Less sophisticated equipment can be used which will give satisfactory results once the gardener has become familiar with his soil. Inspection holes can be dug with a trowel or shovel so that conditions in the lower soil can be seen. This method cannot be used where roots will be damaged or where it is necessary to see the condition several feet below the surface. A metal rod, similar to an arm of a television antenna, will be hard to push into dry soil and can be used in lawns, where there are many roots, or in deep ground cover plantings because it will make a small hole that soon fills up and will be deflected by a root. A soil tube, used by commercial growers, removes a core of soil so the condition of the soil from the surface to the depth of the sample can be seen and its moisture content determined. There are also soil augers that bring up samples of the lower soil for evaluation. Sensors are available that can be installed in the circuits of automatic sprinkler systems that prevent the system operating until the soil reaches a predetermined degree of dryness.

When exploration with one of these tools indicates that the lower soil is dry enough water should be applied to wet the root zone of the plants in the area. The depth to which the water has penetrated can be determined after the irrigation—the next day will do—by probing with a rod or with one of the other tools mentioned. The rod will penetrate easily as deeply as the water has gone. If the water has not penetrated as deeply

as needed, the next irrigation should be for a longer period of time, and less water used if the soil has been wet deeper than needed. An irrigation program that is established by the use of these techniques will meet the needs of the plants yet not use more water than is necessary. It should be kept in mind that the needs of the plants will vary as the weather changes and will increase as the plants become larger.

Because of their shallow root system and dense population of plants, lawns need frequent waterings and their need for water should be checked by the use of a meter or probe. A screwdriver that has a metal bit about 12 inches long, is an easy to get tool that is suitable for this purpose. Thatch is a colletion of clippings, dead growth, and runners, that builds up in lawns and slows the penetration of water so there is more likely to be runoff and wasted water. This buildup should be removed by renovation or vertical cutting. Soil of lawns may become compacted from use, cutting water penetration. This can be corrected by aerifying, the process of removing cores of soil so small holes are left which permit better air and water penetration. Problems caused by thatch and compaction can be helped to a point by the use of a soil penetrant which will help water enter the soil.

Some water is lost from the soil by evaporation from its surface and this loss can be greatly reduced if the surface is protected with a mulch. A mulch can be created by cultivation which develops a layer of fine soil that is not tightly connected with the lower soil so the upward movement of water is stopped. Such a mulch should be developed as soon after irrigation as it is possible to work the soil. Organic materials, such as wood chips, compost and similar low cost materials can be used to cover the surface and greatly reduce the water loss, and such a covering will also reduce the growth of weed seedlings. As the material decays, it combines with the soil, improving the quality and adding to the food value. Any organic material that is not harmful to plants (shavings of creosote treated wood are very harmful) may be used. If the mulch is composed of fine materila such as sawdust, it should be at least two inches thick, and if it is coarser such as shavings, a three inch spread is necessary to achieve best results. In the second and succeeding years the mulch should be rebuilt to its original depth at the start of the summer so that the greatest protection is available when the weather is the hottest. Inorganic materials, such as rock or plastic sheeting, can be used for mulching and serve well in all respects, except they do not decay and improve the soil on which they have been spread. Further information on mulches can be found in California Garden Magazine, September-October issue of 1971, Vol. 62, No. 5.

The devices used to apply water to the garden have a bearing on how much water is needed to achieve the desired results, and the drip method of irrigation reduces evaporation and runnoff and may be of value in some cases. This method applies water a drop at a time and because of this a much smaller area is wet than by other methods. The roots of the plants are confined to a smaller volume of soil and make use of every drop of water that is used. It has not yet been made clear if such plants will grow as large, produce as much crop, or be able to withstand wind as well as the same kinds of plants grown by other methods of watering. A drip system that is installed to water established plants should be engineered to water at least half of the area watered by previously used methods because the roots of the plants that are beyond the area watered by the drip system will die as will the tops related to these roots. California Garden Magazine for March-April, 1975, Vol. 66, No. 2, has a short article with other information on drip irrigation.

Water loss from runoff on slopes, or other places, can be reduced by the use of a low volume sprinkler or sprinkler heads. These apply water slowly, in a fine mist, so water is put on closer to the rate it can soak into the soil. Watering these areas for short periods then stopping the water so the water applied can soak in, or the use of penetrating materials are other ways this condition can be improved. Sprinkler systems need to be examined from time to time to see that the heads are all functioning properly and that the water is distributed evenly. Early morning hours are the best to water, when it is possible, for there is usually the least wind to disrupt the spray pattern, there is less loss by evaporation, and there is less disease hazard as the plants are wet for a shorter

(continued on page 119)

AEONIUM UNDULATUM

by Reid Moran

Aeonium undulatum is a succulent plant with the habit of a miniature palm: an unbranched stem, about three feet high, crowned with a rosette of spreading leaves. At maturity, the center of the rosette grows quickly upward to a large cone of bright yellow flowers, which are at their best for about three weeks. The old plant dies after flowering but is replaced by offsets coming up around the base. This plant is native on the island of Gran Canaria, about 100 miles off the northwest coast of Africa, in the Canary Islands. There it grows on cliffs and sometimes on housetops at 1200 to 6000 feet elevation.

This handsome plant grows readily in southern California gardens. Planted in partial shade and watered moderately, it will establish itself and grow luxuriantly with little or no care. (If I can grow it, anyone can!) Less planted here than some of its smaller and less spectacular brethren, it certainly deserves wider use.

Aeonium belongs to the Stonecrop Family (Crassulaceae), a family including such well-known succulents as the Sedums, Cotyledons, Kalanchoes, Crassulas, and Echeverias. All members of this family have flowers of remarkable symmetry, with an equal number of sepals, petals and pistils, and either as many or twice as many stamens. The number of petals, (etc.) commonly is five and sometimes is four; but in the Sempervivum subfamily, to which *Aeonium* belongs, it is larger, commonly 6 to 15 and sometimes more than 30. To this subfamily belong the houseleeks (*Sempervivum*), with some 35 kinds native in the mountains of Europe, Asia Minor, and northwestern Africa; these plants, well-known to rock gardens of more northern climates, have mostly clustered small leaf rosettes, hugging the ground. The other members of this subfamily, often larger and more shrubby, are remarkably developed in the Canary Islands, where some 59 kinds occur, with a few outlying kinds in nearby islands and in mainland Africa.

The Canaries are an irregular east-west chain of seven volcanic islands, extending about from 60 to 270 miles off the African coast at a latitude only slightly south of ours. They range from 2000 to 12,000 feet in height, with desertic conditions near sea level, especially on the eastern islands, more temperate conditions at middle elevations, and subalpine conditions on the highest peaks. Since the Canaries have a Mediterranean climate much like ours for equal (or slightly lower) altitudes, many Canarian plants do well in our gardens; familiar examples are the Canary Island Pine, the Canary Island Palm, and the Dragon Tree. The Aeoniums and their relatives occur from sea level to about 7000 feet but are most abundant at about 2000 to 3000 feet.

Of about 1350 flowering plants native to the Canary Islands, some 440 are found nowhere else, and about 250 of these occur only on one island each. Furthermore, any one plant is likely to be confined to one altitudinal zone and may occur only in part of that zone. But among Canarian plants, *Aeonium* and its relatives provide the most remarkable example of endemism, or restricted natural occurrence. Of some 59 kinds occurring in the Canaries, only one has been found elsewhere and that on the nearby Salvage Islands; and the ten others not found in the Canaries are mostly on neighboring islands. Of these 59 kinds, apparently 40 are known from only one island each, ten from two islands each, four from three islands

Fig. 2. Rosettes of well watered plants

Fig. 3. Offsets at base of old stem, branching off underground.

Fig. 4. Flat center of rosette in dry season.

each, two from four and two from five islands each, one from six islands, and none from all seven; they have about the same percentage distribution among the islands as the endemic Canarian plants as a whole. Again, on the individual islands, the distribution of each kind is more or less restricted and often quite local. *Aeonium* itself includes 39 kinds, of which 33 are confined to the Canary Islands, two to Madeira, and two to the Cape Verde Islands; the other two are African, one in Morocco and one in Abyssinia.

Aeonium undulatum in our gardens is commonly about 2 to 3 feet high, or 3 to 5 feet when in flower: but at home in the Canaries it may sometimes reach 10 feet. The stem, about 1 to 2 inches thick, is unbranched above ground but sends up new stems close to the base (fig. 3); this mode of branching immediately distinguishes this plant from all its relatives. The terminal rosette of more than 100 leaves is often rather flat towards the center, especially in the dry season, the leaves shingled in a perfect spiral (fig. 4). The shiny dark green leaves are about 6 to 12 inches long and 2 to 3 inches wide, smooth except for fine saw teeth on the margins. Sometimes the leaves are undulate, as the name suggests, but often they are not. Plants take several years to mature, but once the floral stem starts to develop it grows rapidly (figs. 5, 6). In the space of about 6 weeks, the flattish center of the rosette pokes out and becomes a leafy stalk 2 or 3 feet long, with a showy dense flower cluster 1 to 2 feet high and wide (fig. 7). The bright yellow flowers, about ¾ inch wide, are 9- to 12-parted. The individual flower is open for nearly two weeks, and the total flowering period is about 5 weeks.

In southern California some other Aeoniums are grown commonly and others occasionally. Probably best known here is *Aeonium arboreum,* which resembles *A. undulatum* in its leaf rosettes and its clusters of yellow flowers but is smaller and bushy, with branching stems. The leaves are bright yellowish green in one form and purplish black in another. Known from the time of Dioscorides, it is widespread on the shores of the Mediterranean, cultivated or half wild. Until 40 years ago, its native home was uncertain; but then it was found, apparently native, in wild areas on the coast of Morocco.

Also commonly grown here is *Aeonium haworthii,* which makes a domelike bush, a foot or two wide, of crowded rosettes. The leaves are thick and gray-green, often with red edges, and the flowers pale yellow, almost white. This is native rather locally on the north coast of Tenerife, the largest of the Canary Islands. A similar plant from the island of Gomera, often grown here, is *Aeonium decorum,* which differs in its pink flowers and its narrower leaves, which are bright green or, on exposure, often red.

Several other Aeoniums are seen in succulent collections and less commonly in general cultivation. Most remarkable is *Aeonium tabulaeforme,* whose rosettes 6 inches to a foot across, are flat as the proverbial pancake. On the northern coast of Tenerife, it commonly grows plastered on vertical cliffs, in some places quite abundant. For almost 300 years it has been grown as a sort of minor plant wonder. Also noteworthy is *Aeonium nobile,* with solitary short-stemmed rosettes about 2 feet wide of rather heavy leaves and a flat flower cluster to 2 feet wide and with as many as 50,000 flowers. The flowers are unique among Aeoniums in having red petals, though the yellow anthers modify the general effect in the direction of orange.

The classification of plants of the *Sempervivum* group was for many years unsatisfactory and their identification difficult, owing in part to their rather free hybridization in nature and especially in gardens. In 1921 R. Lloyd Praeger, a Dublin librarian and keen amateur botanist, published a study of the cultivated members of the related genus *Sedum;* and soon after, he was invited by the Royal Horticultural Society of London to prepare an illustrated account of the Sempervivums. Trying at first to work with the plants available in cultivation, he soon found that a large proportion of these were hybrids of undeterminable origin. He therefore traveled to the native areas, studied the wild plants, and brought back wild plants for garden study at home. Besides collecting in the mountains of Europe, he made two long trips to the Canary Islands, visiting every island and discovering several kinds overlooked before. His careful study solved many of the tangled problems of classification and nomenclature. Although a few more kinds have since been found and named, Dr. Praeger's book, published in 1932, remains the best source of information on this attractive group of plants.

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Fig. 5. Center of same rosette, starting to grow out into a floral stem.

Fig. 6. Same rosette as in Fig. 5, ten days later.

Fig. 7. Dense flower cluster.

Planning To Use Pesticides? Be Sure To Follow These Safety Tips

If you are planning to use pesticides to enhance your lawn or garden, there are some safety tips you should observe.

The New York State College of Agriculture recommends the following:

Label

- Read everything on the label and follow directions exactly. Re-read each time before using.
- Observe the cautions, especially those to "Keep Out of Reach of Children," and those to keep residues on edible plants within the limits permitted by law.

Use

- Use the proper pesticide at the proper time to control a pest.
- Measure accurately. Overdosage seldom kills more insects or diseases.
- Work in a well ventilated area.
- When spraying inside the home to control flying insects, cover all food and utensils, close windows and doors tightly. After spraying, leave the room, close the door. Do not re-enter the room for half an hour or longer. Aquariums, birds, dogs, cats, and other pets must be removed before spraying.
- Outside, remove or cover food and water containers used by pets. Do not contaminate fish ponds or streams.
- Never spray with children near by.
- Do not leave mothballs where children can get them. Mothballs resemble candy.
- Use a separate sprayer for applying herbicides to avoid accidental injury to sensitive plants.
- Never leave pesticides where children or irresponsible persons can reach them. Place them out of reach as soon as the sprays or dusts have been prepared.
- Always keep pesticides in their original containers. Make sure they are tightly closed and plainly labeled. *Never put a pesticide in an empty food container of any kind. This is the major cause of human deaths from pesticides.*

Cleanliness

- Never drink, smoke, or chew gum while handling pesticides.
- Avoid inhaling sprays, dusts, or vapors.
- Have soap, water, and a towel available. Should you spill concentrated pesticide on yourself, wash immediately.
- When you have finished using a pesticide, or before eating or smoking, wash hands and face thoroughly and remove contaminated clothing.
- Work cloths should be laundered before they are used again.

Storage

- Store pesticides and pesticide equipment only in a locked cabinet or room. A cool, dry, well-ventilated storage area is best.
- Never store pesticides with or near food, medicine, or cleaning supplies.
- Do not store 2, 4-D or silvex with other pesticides, since the vapors may be absorbed and sensitive plants injured.
- Volatile herbicides, such as 2, 4-D, and silvex should be stored outside the house if you have sensitive house plants.

Disposal

- Do not dispose of empty containers or surplus pesticides where they may be a hazard to fish or wildlife or, where they may contaminate water.
- Empty containers and surplus pesticides should be wrapped in thick layers of newspaper and placed in a trash can just before the trash is collected. Until then, keep them locked up.
- Purchase only what you need, or a little less, for one season. Some pesticides lose their effectiveness from one season to the next.
- Never burn 2, 4-D or silvex herbicides or their containers.
- If the label is no longer readable, dispose of the pesticide and the container.

Presurized Cans

- Do not discard empty containers into a fire or incinerator. They are likely to explode.
- Do not leave them on a stove, radiator, in direct sunlight, or in the trunk or glove compartment of your car. Temperatures of 120 degrees F or above may cause explosions. Do not puncture and do not use near open flame. Do not spray near face. Do not inhale fine sprays for flying insects.
- To dispose of pressurized cans, exhaust all gas through the release valve and place in trash can.

Sensitivity or Accidental Poisoning

- If you seem to have a special sensitivity to pesticides, consult an allergist, and, if necessary, avoid further exposure to the offending chemicals.
- If you experience headache, nausea, or blurred vision, or you accidentally swallow any pesticide, call a physician immediately. Read the label to him, naming the active ingredients. If it is necessary to go to the doctor's office or hospital, take the pesticide container so the doctor can properly identify the pesticide.

In every case of human death from pesticides, the cause has been accidental misuse. Whenever a small child is poisoned accidentally, an older person has done something wrong.

(continued from page 115)

period of time than when watered in the evening. Weeds, which are plants growing where they are not wanted, are heavy users of water and keeping them from developing saves some water.

Gardeners may want to replace plantings that use too much water either because the plants have become very large, or because the plants are kinds that need more than normal amounts of water. When replacing high water need plants with those requiring less water, it is good to group plants with similar water needs together. If plants that have greatly different needs are planted where they must be watered together, problems will result. If generous amounts of a soil amendment with a good water holding ability are used in planting holes, the plants will need less frequent waterings. Some of our native plants, which have low water requirements, are dormant during the warm months and establish themselves quicker if they are planted in the fall or early winter, when they will start to grow and when there is a possibility of rain to help them get started. □

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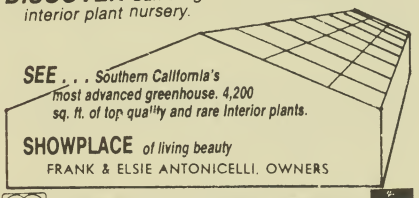

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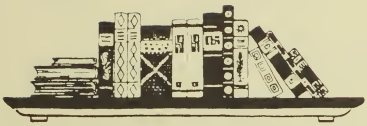

by Rosalie Garcia

TREES & SHRUBS FOR PACIFIC NORTHWEST GARDENS, by John and Carol L. Grant, Pacific Books Publishers, P.O. Box 558, Palo Alto, CA 94302, 314 pages.

A Southern Californian might pass up this book because of its title and think it had nothing for them, but it has plenty that is useful, because we grow about three-fourths of the trees and shrubs listed. I found the chapter on broad-leaved evergreens very applicable to our climate, and the special care for them helpful. The coniferous and deciduous trees, as well as the bamboos and yuccas, in landscaping are emphasized. Lists of trees and shrubs are grouped according to climatic and sun conditions, as well as to size and uses.

TERRARIUMS AND MINIATURE GARDENS, by Editors of Sunset Books and Sunset Magazine, Lane Books, Menlo Park, CA, 80 pages, $1.95.

The first part of this book is devoted to the making of terrariums; the plants to put in, explicit directions on how to do it, with drawings and photographs to illustrate all steps.

The second part contains instructions in making miniature gardens, better known as dish gardens.

The third and largest section deals with the plants suitable for these containers.

DRIED FLOWERS AND HOW TO PREPARE THEM, by Sara Whitlock and Martha Rankin, Dover Publications, Inc. 180 Varick Street, New York, N.Y. 10014, 30 pages, $1.00.

Since drying flowers and foliage for arrangements is quite the thing now, this little book with explicit instructions is what one needs. The authors list all the operations in drying and preparing the plant materials for drying and the different methods and mediums for doing them: silica gel, meal and borax, perlite, aggregate, sand and borax. A list of plant materials that dry best, and special precautions for each are helpful.

HOW TO GROW ALMOST EVERYTHING, by Stanley Schuler, M. Evans and Co., Inc., and distributed by J.B. Lippincot Co., Philadelphia and New York, 256 pages.

Mr. Schuler's title is a generalization to be taken with a grain of salt. He divides his book into two parts: first, an alphabetical list of plants commonly grown in gardens; second, basic gardening tasks like soil building, propagating, planting, forcing, and care of house plants. Although what he says is informative, a beginning gardener could find a lot left out.

ECHEVERIAS, by L. Carruthers and R. Ginns, Arco Publishing Co., Inc., 219 Park Avenue, New York, N.Y. 10003, 110 pages.

Growing most succulents is so easy and popular in Southern California that many plant them and let them grow without knowing their names or anything about their origins. Messrs. Carruthers and Ginns, two Englishmen, discuss the one genus, echeveria, which they grew mostly in greenhouses in England. They have studied and appreciated the beauties of the many varieties. Twenty-four pages in color help identify many we have seen, and drawings that illustrate many other forms are helpful. Dozens of varieties are described as well as a chapter on hybrids. A collector or an amateur who picked up a plant at the garden club or nursery will find this book very helpful.

PEONIES OUTDOORS AND IN, by Arno and

Irene Nehrling, Dover Publications, 180 Varick Street, New York, N.Y. 10014, 270 pages, $3.50.

Unless one lives at an elevation of several thousand feet where it freezes in winter, we in Southern California cannot raise peonies, but if we drive to the mountains to Julian in May, we can see one variety, the herbaceous one, in all its glory. This book lists all varieties, their historical origin, culture, landscaping possibilities, and cut-flower uses. Those of us who have lived "back East" will remember them in our gardens, and delight in the new hybrids. Since peonies will grow in more climates than they won't, this book is full of ideas on growing a plant that is relatively hardy, perennial, and most decorative.

A HERITAGE OF HERBS, History, Early Gardening and Old Recipes, by Bertha Reppert, illustrated by Margaret S. Browne and Marjorie L. Reppert, Stackpole Books, Cameron and Kelker Streets, Harrisburg, PA 17105, 192 pages, $8.95.

Mrs. Reppert has produced a scholarly book on native America herbs, and written about them in an enjoyable manner. She has gone to original early American sources and revealed how much herbs meant in those days. Listing the American herbs alphabetically makes this book an easy reference. Many of the imported ones are also included. Famous herb gardens throughout the East are illustrated or photographed. Chapters on medicinal, sentimental, and dyeing herbs along with old recipes for food and drinks, make this a good book to own.

COLOR IN THE SKY, by Edwin A. Menninger, Horticultural Books, Inc., Stuart Florida, 33494 260 pages.

The Menninger brothers are all famous. We know of the two psychiatrists and their Kansas Clinic, but Edwin became famous as a journalist and publisher, and mostly for his interest and love of flowering trees which he introduced into Florida. This book is the story of his 200 flowering tropical trees. His hunt for seeds, his experiments, his failures, and his enthusiasms are conveyed in such a way that makes this book as exciting as it is full of horticultural knowledge. A slight disdain for the nit-picking botanist sometimes creeps in when he is trying to nail down nomenclature. He has traveled all over the tropics. He has seen and described many species that he has not been able to grow in Florida and is able to convey his thrill at the beauty of these flowering trees. There are many illustrations in color. For a tree person, this book is a must.

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BEGONIAS

- ✓ to feed tuberous begonias with "hi-Bloom" and fish emulsion.
- ✓ to continue regular feeding of other types of begonias.
- ✓ to take cuttings, and repot those already rooted.
- ✓ to watch any surface rooted plants, and mulch with porous material to protect them from drying out too rapidly during extremes in weather.
- ✓ to check for mildew, and spray with a fungicide for control.

BONSAI

HERBERT MARKOWITZ

- ✓ to check for insects and pests; spray with diluted pesticides.
- ✓ to water carefully; some plants need it frequently.
- ✓ to mist or spray foliage of certain bonsai morning and evening.
- ✓ to move some plants into shaded areas out of the noonday and afternoon sun.
- ✓ to stop repotting except in emergency situations.

BROMELIADS

THELMA O'REILLY

- ✓ to maintain insect and snail control program.
- ✓ to feed with half-strength balanced fertilizer.
- ✓ to remove off-sets for additional plants.
- ✓ to be careful of sunburn on foliage.
- ✓ to keep cups clean to prevent rot.
- ✓ to watch any Santa Ana winds and do not let plants dry out.

CACTUS & SUCCULENTS

VERNA PASEK

- ✓ to water—soaking the soil evenly is better for all plants.
- ✓ to plan windbreaks to help conserve water and to protect new growth from winds and sunburn.
- ✓ to make grafts as union will take place better in warm weather.
- ✓ to feed using a well-balanced fertilizer for new root growth and beautiful blooms.
- ✓ to protect against slugs and snails—try beer in jar lids in your garden.
- ✓ to repot those needing larger containers.

CAMELLIAS

CAPT. BENJAMIN BERRY

- ✓ to continue regular feeding program—six to eight week intervals.
- ✓ to have a regular weekly watering schedule—water deeply but avoid sogginess in heavy soil.
- ✓ to still do light pruning for good air circulation and shaping.
- ✓ to apply a mulch to protect feeder roots from drying out.
- ✓ to check for pests—looper worms, aphids and spider mites; maintain a regular spray program.

DAHLIAS

ABE JANZEN

- ✓ to continue regular watering program.
- ✓ to check ties on canes to prevent breaking.
- ✓ to disbud for better blooms.
- ✓ to keep a regular feeding program of 5—10—10.
- ✓ to spray for pest control and check mildew (use a sulphur mixture).
- ✓ to cut blooms in late afternoon or early evening and place in water immediately.

EPIPHYLLUMS

MARY & WARREN KELLEY

- ✓ to repot plants that have outgrown their containers.
- ✓ to start new cuttings in the warm weather.
- ✓ to protect plants from hot summer sun—place in filtered sunlight.
- ✓ to watch moisture—spray mist in cool of evening.
- ✓ to maintain control against pests—use insecticides such as cygon; can spray or drench plants.
- ✓ to fertilize for new growth.

FUCHSIAS

WILLIAM SELBY

- ✓ to maintain humidity around growing areas by misting on hot days.
- ✓ to water as needed but only in late afternoon.
- ✓ to keep spent blooms picked off as well as any berries.
- ✓ to fertilize with high phosphorous for prolific bloom.
- ✓ to prune lightly to shape.
- ✓ to control insects with frequent spraying; can use drench of cygon for systemic control.
- ✓ to remember not to overwater especially when days are hot; more plants are killed by too much water than by being too dry.

GERANIUMS

PHIL BUSH

✓ to water only as needed—let dry between waterings.
✓ to control insects with a good spray or systemic. Watch especially for whitefly, worms or caterpillers.
✓ to feed lightly but regularly with half-strength fertilizer.
✓ to start taking cuttings. Cut back to shape or trim any leggy plants.
✓ to protect the Martha Washington type during the hottest days—can place in semi-shade.

IRIS

✓ to divide bearded iris; resetting young rhizomes.
✓ to dust the cut ends of the iris with sulphur.
✓ to dig and revitalize the soil for planting; dig humus, bone meal into the ground. Can leave unplanted for a couple of weeks.
✓ to feed those plants left unplanted using a high-nitrogen fertilizer only this one time.
✓ to cut off foliage of beardless iris but do not dig until September. Divide only if crowded.
✓ to watch for aphids and use a light insecticide or a systemic.
✓ to keep iris beds clean of old fans and weeds.

ORCHIDS

✓ to spray and mist on dry hots days.
✓ to maintain pest control; watch for red spider, scale and snails.
✓ to continue feeding cymbidiums and cattleyas with high-nitrogren fertilizers—these are growing months.
✓ to keep the mix of out door plants moist.
✓ to continue giving cymbidiums plenty of water and sunlight—but do not burn.
✓ to check your heat and light intensity in glass houses.

ROSES

DEE THORSON

✓ to apply a loose mulch around bushes to preserve moisture.
✓ to keep bushes mite-free by hosing with water every three or four days or daily if mites are present until eggs and live mites are gone.
✓ to discontinue any heavy feeding during hot weather.
✓ to maintain a consistent watering program; include overhead watering occasionally.
✓ to remove any foliage infected with rust spores and spray with Act-Dionne PM.
✓ to moderately prune bushes the latter part of August for fall blooms.
✓ to check for any dieback or holes made by borers in the end of canes. Recut and seal with pruning compound any damaged canes.

VEGETABLES

✓ to prepare soil and make a fall planting before the end of August of tomato, pepper, eggplant from started plants, and to plant seed of snap beans, summer squash, cucumber, corn and lettuce.
✓ to make the first plantings of cool weather vegetables in August setting plants of celery and cabbage and varieties related to it, and to plant seeds of Chinese cabbage, mustard, and peas.
✓ to continue to plant seeds of root crops for fall and winter harvest.
✓ to irrigate deeply, instead of light sprinklings, to save labor and water.
✓ to harvest frequently so that vegetables are used in their prime and bush and vine plants are encouraged to continue to bear.
✓ to fertilize so the plants grow vigorously and the yield is heavy and succulent.

GREEN THUMB ITEMS

✓ to feed Bird-of-Paradise with cottonseed meal. Soil sulphur may also be applied to base of plants. Need excellent drainage and an acid type soil.
✓ to cut back berry canes after harvesting—cut back all canes that carried this season's fruit.
✓ to pinch back chrysanthemums again.
✓ to plant flats of flowers for fall color.
✓ to prepare soil now for September, October planting of bulbs.
✓ to plant or divide Shasta daisies.
✓ to move Belladonna lillies after they have bloomed.

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SUCCULENTS OF THE LILY FAMILY

by Burr Clouette

San Diego Cactus and Succulent Society

ONE of the commonest succulents in any collection is the Aloe. These are often showy plants found wherever succulents are grown, especially in outdoor gardens. Many are large and spreading and fairly hardy. Some Aloes are small and best grown as pot plants. Of late some of these smaller ones have been placed in a separate genus.

However there are a number of genera in the Lily family that are ideal pot plants and show up to better advantage in containers. Some of the succulent Liliaceae (excluding the genus Aloe) that I have grown as pot plants belong to the genera Apicra, Bulbine, Gasteria and Haworthia.

Apicras are few in number and only differ from Haworthia in flower structure. The plant bodies are similiar, a leafy rosette usually stemless. The culture of Apicras, and most of these South Africanders is the same as for Haworthia. Apicras are few in number and only differ from Haworthia in flower structure. The plant bodies are similiar. The only Apicra I have grown is *A. pentagona.* It is a twisted more-or-less five-sided rosette of horny pointed leaves, some three to five inches tall. It has small pinkish-white tubular flowers, which are symmetrical and only slightly spreading at the tips. *Haworthias* have irregular somewhat tubular flowers which appear two-lipped.

When grown in pots, *Gasteria bowieana volubilis* is a greenish ball, sitting on top of the soil. It is stemless when dormant, and at such times should be watered very little or not at all. When growth starts, water and fertilize regularly. Plant in a gritty porous mix, with its lower quarter in soil. Two shoots are sent up when growth starts. These shoots twine and clamber up and over each other forming a mass of short leafless branches. The small green flowers are born on this twiggy mass which is really an inflorescence. The bulb gradually increases in size and will eventually split into two or more parts.

Bulbine caulescens is a stemmed plant a foot or so tall. The smooth succulent pale green leaves are arranged in rows or tiers on opposite sides of the ends of the branches, similiar to Gasteria. The leaves are narrow and about three inches long. The flowers are yellow and Aloe-like. Other *Bulbines* form rosettes. All are easily grown in a porous sand mix.

Gasterias are stemless plants with leaves mostly arranged in two opposite tiers, one on top of the other. With age, many of them form rosettes. The leaves of most Gasterias are marked or mottled cream or tan. Some have raised markings. G. armstrongii with its plain dark green recurved leaves is the only exception that I know of. Most have fleshy leaves one-half to one inch wide, bluntly rounded, two to eight inches long. However, the one I grew, had leaves over a foot long, an inch or more thick and a couple of inches wide, tapering from base to bluntly rounded tip. This large Gasteria formed a spiral rosette with age. Most Gasterias, Apicras, Haworthias offset and also grow from leaf cuttings, as do Aloes.

The Haworthias are by far the most numerous, there being some two hundred named varieties. Most are just sub-species or forms. *H. reinwardtii* alone has a dozen or more different forms. The Haworthias come in many shapes, sizes and types. Most are nearly stemless rosettes with a variety of leaf form, texture, color and markings. The arrangement of the leaves on the stem, or in the rosettes, takes many patterns. Sometimes though they seem to be placed just hit or miss.

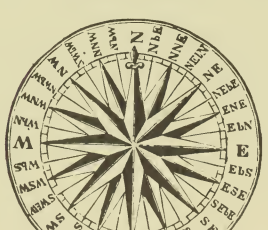
The horny leaved Haworthias are usually dark green and/or silvered, plain or textured, long pointed, short triangular or some combination of these characteristics. *H. radula* and *H. augustafolia* have long pointed rough textured but unmarked leaves. The leaves of *H. fasciata* are similiar but with cross bands of white tubercles. In *H. attenuata* the tubercles are hit and miss. A few have a stem covered with various types of leaves. They are rather triangular, fleshy and spirally-arranged in *H. tortuoso. H. viscosa* is a small, short four-sided column of thin triangular leaves.

One group of Haworthias are window plants with fleshy leaves with transparent areas to allow light to enter the leaf. *H. cuspidata, H. pilifera* and others in this group have pale green fleshy leaves with windows in the tips. Two of the most interesting of the windowed group are *H. truncata* and *H. Maughani.* In these the dark green fleshy leaves appear to be cut off crosswise at the greatest diameter. The leaf ends are transparent. Other Haworthias as *H. setoso, H. Colusii. H. arachnoides* and *H. minima* have toothed or hairy edges and tips and seem to be covered with cobwebs.

All of these plants of South African origin make excellent container specimens. A mix of 1/3 good soil, 1/3 sand and 1/3 screened leaf mold is excellent. Place drainage material in the bottom of the pot, then the mixture. Grow in a warm spot but shaded from the hottest midday sun. Many make more perfect specimens when grown in light broken shade, as under lath or saran shade cloth. A Cygon dip and the use of sterile soil and/or a soil fumigant or fungicide will keep plants pest free and disease free. Moderate watering (less in cold damp weather) and an occasional watering with a complete liquid fertilizer, will make stronger growth.

All of the above mentioned plants are interesting, worthwhile, nearly trouble-free plants and are worth growing. Do not expect flowers of any beauty, — just interesting form, texture, pattern and markings. These are enough.

Good reference works are; *Succulents for the Amateur* by Scott E. Haselton. *Succulent Plants* by H. Jacobsen. These and many others are available from the Abbey Garden Press, Pasadena, California.



ROLAND HOYT* RECOMMENDS

TOYON —

Drawings by Alfred Hottes

TOYON berries are native to the coastal sections of California and south into lower California. This shrub, long standing in cultivation, is now infrequently seen in nurseries. This situation is unfortunate since the toyon is not only one of the more handsome and serviceable species, but also one of the natives better adapted to garden or landscape.

A new look then at *Heteromeles arbutifolia* (Photinia) which is also known as Christmas-berry and California holly is surely in order and herewith presented. It begins as a substantial, somewhat leggy shrub with dark, shining foliage and an unusually generous crop of red berries. It ends up as a spreading, round-headed tree of some 25 feet at its best. This latter happens only when the plant is well situated for soil condition and depth, exposure and proper moisture for timing and amount. The lower trunk can be as much as 15″-18″ through.

The "situation" as termed above means essentially a north slope, preferably under cooling breezes, the soil well drained and deep. It can be grown otherwise, but will stunt, fail to produce fruit, or simply deteriorate and ultimately dry up in too much heat. In nature, both environments and conditions above will be noted and the planter will follow the first or face failure, as marked off in the last. Don't over-water and don't push with over-feeding, when a glorious plant may result for the winter landscape, and good cuttings served up for Christmas time.

Many diseases may come about unless proper conditions for growth are available and sensible restraint in management observed. Where these stipulations cannot be provided, the plant should not be considered, and a substitute sought out. Butterfield, of the University of California, has called attention to two serious diseases that will be found more or less commonly. The one, known as scab is a fungus infection, dark splotches such as seen on apples and the foliage, or on rose leaves. This will be encouraged when vigor in growth is depleted. The other, the common fire-blight appears when the growth is too great and attacks succulent new twigs first. This is bacterial in nature and there is no cure beyond cutting out infected parts to stop the spread. The old bordeaux mixture can be used as a spray for scab or any of the newer contact fungicides will control it. This should be placed in the summer. The plant is also subject to the ordinary scales, the oyster scale northerly, the brown scales in the south. A miscible or wettable spray will be used here. Thrips anywhere will disfigure the leaf, especially when the plant is over the tolerance line in heat. A strong contact such as malathion must be used here if effective control is to be achieved. Start in early spring and continue from time to time. A sooty-mould fungus may be noted after a serious going over by aphis or other sucking insect.

This is an impressive enumeration of ailments, but one need not be discouraged and driven off. Just be sure of your ground in location and your self-discipline in management. Here is a prime example of the value of knowing where to place a plant, so that satisfaction is assured over long years. And here, there will be a yearly harvest for Christmas decoration . . . and for the birds. Don't begrudge their share, but try to get there first.

*Fellow ASLA, author of *Ornamental Plants for Subtropical Regions.*

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Prs: Mrs. Wendel Bemis–465-6834
7808 Lake Adlon Drive, S.D. 92119
SAN DIEGO BONSAI SOCIETY, INC.
Second Sun., Casa del Prado, 1-5p.m.
Prs: Dr. Herbert Markowitz–224-8552
876 Armada Terrace, S.D. 92106
SAN DIEGO BOTANICAL GARDEN FOUNDATION, INC.
Second Thurs., Casa del Prado
Prs: Mrs. Joseph Kenneally–223-6183
2260 Catalina Blvd., S.D. 92107
SAN DIEGO CACTUS & SUCCULENT SOCIETY
Second Saturday, Casa del Prado 1:30 pm
Prs: H. Warren Buckner–469-1391
1744 Englewood Dr. Lemon Gr. 92045
SAN DIEGO CAMELLIA SOCIETY
Third Wed., Casa del Prado, 7:30 pm
Prs: Mr. Les Baskerville–583-4539
4871 Lucille Place, S.D. 92115
SAN DIEGO CHAPTER, CALIFORNIA NATIVE PLANT SOCIETY
Fourth Wed., Casa del Prado, 7:30 pm
Prs: Mrs. Helen V. Chamlee–463-4785
6175 - 68th Street, San Diego 92115
SAN DIEGO COUNTY DAHLIA SOCIETY
Fourth Tues., Casa del Prado, 7:30 pm
Mrs: Mr. Gerald Lohmann–279-5135
6616 Rockglen Ave., S.D. 92111
SAN DIEGO COUNTY ORCHID SOCIETY
First Tues., Casa del Prado, 7:30 p.m.
Prs: Mr. Charles Fouquette–448-4165
9349 Burning Tree Way, Santee, 92071
SAN DIEGO COUNTY WILDLIFE FED.
Prs: Steven Licata–296-2984
4525 Hamilton Street, S.D. 92116
SAN DIEGO EPIPHYLLUM SOCIETY
Second Wed., Casa del Prado, 7:30 pm
Prs: Mr. Eugene Lund–469-1677
5666 Aztec Drive, La Mesa 92041
SAN DIEGO FUCHSIA SOCIETY
Second Mon., Casa del Prado, 7:30 pm
Prs: Mr. William Selby–424-3432
1333 Triton Avenue, S.D. 92154
SAN DIEGO GERANIUM SOCIETY
Second Tues., Casa del Prado, 7:30 pm
Prs: Mr. Larry L. Sisk–283-2776
3179 No. Mountain View Drive S.D.
SAN DIEGO-IMPERIAL COUNTIES IRIS SOCIETY, Third Sun., Casa del Prado, 1:30
Prs: Mrs. Hazel Carson–264-8688
6177 Tooley St. San Diego 92114
SAN DIEGO ROSE SOCIETY
Third Mon., Casa del Prado, 7:30 pm
Prs: Mrs. Carl Truby–422-3350
1035 Monserate Avenue, Chula Vista
SAN DIEGUITO BRANCH, AMERICAN FUCHSIA SOCIETY
Prs: Dorothy S. Behrends–753-3453
442 Orpheus Ave., Encinitas 92024
SAN DIEGUITO GESNERIAD CLUB
Prs: Mrs. Roman Shore–728-7044
P.O. Box 828, Fallbrook, 92028
SOUTHWEST HEMEROCALLIS SOCIETY
Four meetings per year, Oceanside Federal Savings, Vista, CA.
SOUTHWESTERN GROUP, JUDGES' COUNCIL CALIF. GARDEN CLUBS, INC.
First Wed., Casa del Prado, 10:30 a.m.
Prs: Mrs. Wm. F. Green–488-3665
1340 Loring Street, San Diego 92109
UNIVERSITY CITY GARDEN CLUB
Rep: Barbara McCroskey–452-9734
6747 Welmer Street, San Diego 92122
VILLAGE GARDEN CLUB of La Jolla
Fourth Thurs., 1:00 p.m., La Jolla United Methodist Church, 6063 La Jolla Blvd., La Jolla, CA 92037
Prs: Mrs. George Bauhan–459-9024
5630 Bellevue Ave., La Jolla, 92037

OTHER CLUBS

AMISTAD CLUB OF LA JOLLA, Garden Section
Ch: Mrs. N.T. Cochran–274-8526
5588 Soledad Mt. Road, La Jolla 92037
BERNARDO GARDENERS CLUB
Prs: Mrs. Joseph Dessert–487-6798
12597 Nacido Dr., S.D., 92128
BONITA VALLEY GARDEN CLUB
Prs: Mrs. John R. Ives–479-7550
3730 Cienega Drive, Bonita 92002
BIRDGE & BAY GARDEN CLUB
Prs: Mrs. William Sturgeon–435-8453
1123 Isabella Ave., Coronado 92118
CALIFORNIA RARE FRUIT GROWERS
Fdr. Paul Thomas–758-0054
Star Rt. Rox –, Bonsall 92003
CARLSBAD GARDEN CLUB
Prs: Mrs. Hilma M. Hill–729-2131
P.O. Box 81, Carlsbad, 92008
CHULA VISTA GARDEN CLUB
Prs: Mrs. Bryce Kyburz–479-2517
3612 Fairlomas Rd., Nat'l City 92050
CHULA VISTA ROSE SOCIETY
Prs: Mr. Don Fogg–427-6546
995 Widgeon Lane, Chula Vista 92011
CORONADO FLORAL ASSOCIATION
Prs: Cmdr. Robert Odiorne–435-4461
10 Pine Court, Coronado, 92118
COUNTY CIVIC CENTER GARDEN CLUB
Dir: James Saraceno–274-2628
3366 Lloyd Street, S.D. 92117
CROSSTOWN GARDEN CLUB
Prs: Charles T. Williams–284-2317
3865 - 41st Street, S.D. 92105
CROWN GARDEN CLUB
Prs: Mrs. John F. Riley–435-1094
245 J Avenue, Coronado 92118
DOS VALLES GARDEN CLUB
Prs: Mrs. Harold Seitz–749-1473
P.O. Box 885, Valley Center, 92082
EAST COUNTY ROSE SOCIETY
Prs: Mrs. Jean Driver–449-9313
1053 Summer Court, El Cajon, 92021
ESCONDIDO GARDEN CLUB
Prs: Mrs. Flora McKay–
P.O. Box 2162, Escondido, 92025
FALLBROOK GARDEN CLUB
Prs: Mr. Phillip L. Nye–728-8560
4017 Linda Vista Dr., Fallbrook 92028
GROSSMONT GARDEN CLUB
Prs: Mrs. Jack K. Davant–469-4514
9570 Sunset Ave, La Mesa 92041
HIPS & THORNS
Prs: Mrs. Eugene Cooper–295-7938
4444 Arista Drive, S.D. 92103
IKENOBO CHAPTER OF SAN DIEGO
Prs: Mrs. Charles Oehler–278-5689
2822 Walker Drive, S.D. 92123
LAKESIDE GARDEN CLUB
Prs: Mrs. Paul Hamm–561-3784
9133 Creekford Rd., Lakeside 92040
LA JOLLA NEWCOMERS GARDEN CLUB
Ch: Mrs. Jon Wallace–488-9742
5383 Chelsea St., No 204, La Jolla
LA MESA GARDEN CLUB
Prs: Mrs. W. Don Miller–562-0234
8545 Mission Gorge Rd Sp 307 Santee
LEMON GROVE GARDEN CLUB
Prs: Mrs. James Matthews–469-2232
1482 La Corta Circle, Lemon Grove
MEN'S GARDEN CLUB OF SAN DIEGO
Prs: Mr. John Farleigh–295-5404
2217 Whitman Street, S.D. 92103
MIRA MESA GARDEN CLUB
Prs: Mrs. Dale Frederich–566-1729
10338 Lipscomb Dr., San Diego 92126
MISSION GARDEN CLUB
Prs: Mrs. Vera Eimer–478-5680
Potrero Valley Road, Potrero 92063
NORTH COUNTY ROSE SOCIETY
Prs: Barbara Weeks–746-3396
1550 So. Maple, Apt 3, Esc. 92025
NORTH COUNTY SHADE PLANT CLUB
Prs: Mr. Jim Campbell–278-4372
2903 Greyling Drive, San Diego 92123
OHARA CHAPTER OF SAN DIEGO
Prs: Mrs Walter Bourland–276-4667
2936 Havasupai, S.D. 92117
PACIFIC BEACH GARDEN CLUB
Prs: Mrs. Frank Gagnon–276-4956
2338 Grand View, S.D. 92110
PALOMAR CACTUS & SUCCULENT SOC.
Prs: Joh Myers–487-8089
16370 Gabarda Rd, San Diego, 92128
PALOMAR ORCHID SOCIETY
Prs: Lt. Col. B.B. Newman, Jr.–757-1009
766 Pomelo Drive, Vista, 92083
POWAY VALLEY GARDEN CLUB
Prs: Mrs. B.B. Puddy–487-2038
16303 Avenida Florencia, Poway 92064
QUAIL GARDENS FOUNDATION, INC.
Prs: Mr. H.S. Sherman–286-8818
5071-55th St, San Diego, 92115
RANCHO BERNARDO SEVEN OAKS GARDEN CLUB
Prs: Herbert Barnet–485-1419
16458 Roca Drive, San Diego 92128
SAN DIEGO BROMELIAD SOCIETY
Prs: Mrs. Vincent Lang–469-2323
9160 Lemon Ave., La Mesa 92041
SAN DIEGO COUNTY AFRICAN VIOLET SOCIETY
Prs: Mrs. M.O. Smith–748-2184
12924 Berlin St., Poway 92064
SAN DIEGO FERN SOCIETY
Prs: Mr. Ray Sodomka–466-9165
7824 Normal Ave., La Mesa 92041
SAN DIEGO GESNERIAD SOCIETY
Prs: Mr. R. M. Beauchamp–474-7219
P.O. Box 985, National City 92050
SAN DIEGO GLADIOLUS SOCIETY
Prs: Mr. Ralph Kircher–424-8035
1178 14th Street, Imperial Beach 92032
SAN DIEGUITO GARDEN CLUB
Prs: Mrs. Frank Reavell–753-4908
1222 Santa Fe Drive, Encinitas, 92024
SAN MIGUEL BRANCH, AMERICAN BEGONIA SOCIETY
Prs: Dennis Torzeski–444-3557
1147 Tucson Court, El Cajon 92020
SOLAR GARDEN CLUB
Prs: Mr. Glenn C. Paape–582-4190
6910 - 50th Street, San Diego 92120
VISTA GARDEN CLUB
Prs: Mrs. Elda R. Keith–726-1865
1010 -84 Mesa Avenue, Vista 92083
VISTA MESA GARDEN CLUB
Prs: Mrs. Leonard Shunneson–277-2765
7431 Astoria St., San Diego 92111

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